

MINA DE COBRE PANAMA PROJECT / PORT SITE MASS EARTH WORKS



BLAST REPORT N° 7 JAN DE NUL



Location: Punta Rincón, Colón			Estimated Blast date: March 1st, 2013		
Rock Type: Basalt			Elevation: 49.00 @ 26.00		
Blast Coordinates			Blast Coordinates		
Blast Point	North	East	Blast Point	North	East
A	995612.227	533870.634	C	995576.075	533867.532
B	995583.200	533854.842	D	995605.793	533883.654
PRODUCTION BLASTING					
N° of holes:	72		Diameter:	3.50	in
Average Burden	3.00	m	Subdrilling:	0.50	m
Average Spacing	3.00	m	Average Hole Depth:	9.00	m
Stemming:	1.80_2.00	m			
Borehole inclination:	90 °				
INITIATION SYSTEM					
<i>Pyrotechnics detonators Dual detonator (delay surface 25 ms / delay bottom 500 ms) Trunk line and delay connectors 42ms (shock tube)</i>					
Explosive charge:		One Charge			
Explosives types:		Shot bags with Blend (Emulsion 70%/Anfo 30% mixes)			
Type and size of primer:		Boosters 3/4 pound			
Location of primer:		Down in the hole			
EXPLOSIVES NAMES					
HIGH EXPLOSIVES	Shot bags with Blend (Emulsion 70%/Anfo 30% mixes)			3,080.00	kg
	Quantity of Shot Bags			440.00	units
PRIMER	Boosters 3/4 pound			Quantity: 72	units
INITIATION SYSTEM	Pyrotechnics Detonators (15.00 m)			Quantity: 72	units
	Pyrotechnics Detonators (18.00 m)			Quantity: 0	units
	Pyrotechnics Detonators (9.00 m)			Quantity: 0	units
	Connector non-electric 42 MS			Quantity: 8	units
	Connector non-electric 17 MS			Quantity: 8	units
	Lead in Line (1000m)			Quantity: 1	units
SUMMARY					
Maximum charge per delay		50.00	kg	Total meters drilled(m):	651.53
				Total Charge (kg):	3080.00
				Rock Volume(m³) :	5863.77
				Powder factor (kg/m³)	0.53
Comentarios					

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CHARGE TABLE

Explosive Type A						Explosive Type B				
Explosive density:		1.23	g/cc			Explosive density:		g/cc		
Explosive Diameter:		3.00	in			Explosive Diameter:		in		
Linear Charge		5.70	kg/m			Linear Charge		kg/m		
Hole	Depth	Burden	Spacing	Subdrill	Stemming	Charge			Volume	Powder Factor
ID	m	m	m	m	m	m	kg	Quantity of Shot Bags	m3	kgs/m3
A25-575	9.10	3.00	3.00	0.50	1.90	7.20	41.00	6.00	81.90	0.50
A25-576	9.30	3.00	3.00	0.50	1.90	7.40	42.00	6.00	83.70	0.50
A25-577	8.70	3.00	3.00	0.50	1.90	6.80	39.00	6.00	78.30	0.50
A25-578	8.80	3.00	3.00	0.50	1.90	6.90	39.00	6.00	79.20	0.49
A25-579	8.60	3.00	3.00	0.50	1.90	6.70	38.00	6.00	77.40	0.49
A25-580	9.10	3.00	3.00	0.50	1.90	7.20	41.00	6.00	81.90	0.50
A25-581	8.60	3.00	3.00	0.50	1.90	6.70	38.00	6.00	77.40	0.49
A25-582	9.30	3.00	3.00	0.50	1.90	7.40	42.00	6.00	83.70	0.50
A25-583	9.25	3.00	3.00	0.50	1.90	7.35	42.00	6.00	83.25	0.50
A25-584	9.30	3.00	3.00	0.50	1.90	7.40	42.00	6.00	83.70	0.50
A25-585	8.80	3.00	3.00	0.50	1.90	6.90	39.00	6.00	79.20	0.49
A25-586	9.20	3.00	3.00	0.50	1.90	7.30	42.00	6.00	82.80	0.51
A25-587	8.60	3.00	3.00	0.50	1.90	6.70	38.00	6.00	77.40	0.49
A25-588	8.90	3.00	3.00	0.50	1.90	7.00	40.00	6.00	80.10	0.50
A25-589	9.40	3.00	3.00	0.50	1.90	7.50	43.00	7.00	84.60	0.51
A25-590	8.60	3.00	3.00	0.50	1.90	6.70	38.00	6.00	77.40	0.49
A25-591	9.50	3.00	3.00	0.50	1.90	7.60	43.00	7.00	85.50	0.50
A25-592	9.30	3.00	3.00	0.50	1.90	7.40	42.00	6.00	83.70	0.50
A25-593	9.40	3.00	3.00	0.50	1.90	7.50	43.00	7.00	84.60	0.51
A25-594	10.40	3.00	3.00	0.50	1.90	8.50	48.00	7.00	93.60	0.51
A25-595	9.70	3.00	3.00	0.50	1.90	7.80	44.00	7.00	87.30	0.50
A25-596	10.60	3.00	3.00	0.50	1.90	8.70	50.00	8.00	95.40	0.52
A25-597	9.40	3.00	3.00	0.50	1.90	7.50	43.00	7.00	84.60	0.51

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CHARGE TABLE

Explosive Type A						Explosive Type B				
Explosive density:		1.23	g/cc			Explosive density:		g/cc		
Explosive Diameter:		3.00	in			Explosive Diameter:		in		
Linear Charge		5.70	kg/m			Linear Charge		kg/m		
Hole	Depth	Burden	Spacing	Subdrill	Stemming	Charge			Volume	Powder Factor
ID	m	m	m	m	m	m	kg	Quantity of Shot Bags	m3	kgs/m3
A25-598	9.30	3.00	3.00	0.50	1.90	7.40	42.00	6.00	83.70	0.50
A25-599	9.05	3.00	3.00	0.50	1.90	7.15	41.00	6.00	81.45	0.50
A25-600	8.90	3.00	3.00	0.50	1.90	7.00	40.00	6.00	80.10	0.50
A25-601	9.10	3.00	3.00	0.50	1.90	7.20	41.00	6.00	81.90	0.50
A25-602	9.35	3.00	3.00	0.50	1.90	7.45	42.00	6.00	84.15	0.50
A25-603	9.10	3.00	3.00	0.50	1.90	7.20	41.00	6.00	81.90	0.50
A25-604	8.60	3.00	3.00	0.50	1.90	6.70	38.00	6.00	77.40	0.49
A25-605	9.00	3.00	3.00	0.50	1.90	7.10	40.00	6.00	81.00	0.49
A25-606	8.40	3.00	3.00	0.50	1.90	6.50	37.00	6.00	75.60	0.49
A25-607	6.90	3.00	3.00	0.50	1.90	5.00	29.00	4.00	62.10	0.47
A25-608	8.50	3.00	3.00	0.50	1.90	6.60	38.00	6.00	76.50	0.50
A25-609	8.30	3.00	3.00	0.50	1.90	6.40	36.00	6.00	74.70	0.48
A25-610	8.00	3.00	3.00	0.50	1.90	6.10	35.00	5.00	72.00	0.49
A25-611	8.60	3.00	3.00	0.50	1.90	6.70	38.00	6.00	77.40	0.49
A25-612	8.40	3.00	3.00	0.50	1.90	6.50	37.00	6.00	75.60	0.49
A25-613	8.70	3.00	3.00	0.50	1.90	6.80	39.00	6.00	78.30	0.50
A25-614	8.85	3.00	3.00	0.50	1.90	6.95	40.00	6.00	79.65	0.50
A25-615	9.05	3.00	3.00	0.50	1.90	7.15	41.00	6.00	81.45	0.50
A25-616	9.15	3.00	3.00	0.50	1.90	7.25	41.00	6.00	82.35	0.50
A25-617	8.50	3.00	3.00	0.50	1.90	6.60	38.00	6.00	76.50	0.50
A25-618	8.75	3.00	3.00	0.50	1.90	6.85	39.00	6.00	78.75	0.50
A25-619	8.60	3.00	3.00	0.50	1.90	6.70	38.00	6.00	77.40	0.49
A25-620	9.90	3.00	3.00	0.50	1.90	8.00	46.00	7.00	89.10	0.52

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CHARGE TABLE

Explosive Type A						Explosive Type B				
Explosive density:		1.23	g/cc			Explosive density:		g/cc		
Explosive Diameter:		3.00	in			Explosive Diameter:		in		
Linear Charge		5.70	kg/m			Linear Charge		kg/m		
Hole	Depth	Burden	Spacing	Subdrill	Stemming	Charge			Volume	Powder Factor
ID	m	m	m	m	m	m	kg	Quantity of Shot Bags	m3	kgs/m3
A25-621	8.65	3.00	3.00	0.50	1.90	6.75	38.00	6.00	77.85	0.49
A25-622	8.50	3.00	3.00	0.50	1.90	6.60	38.00	6.00	76.50	0.50
A25-623	8.85	3.00	3.00	0.50	1.90	6.95	40.00	6.00	79.65	0.50
A25-624	8.90	3.00	3.00	0.50	1.90	7.00	40.00	6.00	80.10	0.50
A25-625	8.85	3.00	3.00	0.50	1.90	6.95	40.00	6.00	79.65	0.50
A25-626	8.75	3.00	3.00	0.50	1.90	6.85	39.00	6.00	78.75	0.50
A25-627	8.80	3.00	3.00	0.50	1.90	6.90	39.00	6.00	79.20	0.49
A25-628	9.38	3.00	3.00	0.50	1.90	7.48	43.00	7.00	84.42	0.51
A25-629	8.55	3.00	3.00	0.50	1.90	6.65	38.00	6.00	76.95	0.49
A25-630	9.50	3.00	3.00	0.50	1.90	7.60	43.00	7.00	85.50	0.50
A25-631	9.60	3.00	3.00	0.50	1.90	7.70	44.00	7.00	86.40	0.51
A25-632	10.70	3.00	3.00	0.50	1.90	8.80	50.00	8.00	96.30	0.52
A25-633	10.00	3.00	3.00	0.50	1.90	8.10	46.00	7.00	90.00	0.51
A25-634	9.00	3.00	3.00	0.50	1.90	7.10	40.00	6.00	81.00	0.49
A25-635	9.40	3.00	3.00	0.50	1.90	7.50	43.00	7.00	84.60	0.51
A25-636	9.10	3.00	3.00	0.50	1.90	7.20	41.00	6.00	81.90	0.50
A25-637	9.85	3.00	3.00	0.50	1.90	7.95	45.00	7.00	88.65	0.51
A25-638	9.00	3.00	3.00	0.50	1.90	7.10	40.00	6.00	81.00	0.49
A25-639	8.70	3.00	3.00	0.50	1.20	7.50	43.00	7.00	78.30	0.55
A25-640	9.65	3.00	3.00	0.50	1.90	7.75	44.00	7.00	86.85	0.51
A25-641	9.30	3.00	3.00	0.50	1.90	7.40	42.00	6.00	83.70	0.50
A25-642	9.55	3.00	3.00	0.50	1.90	7.65	44.00	7.00	85.95	0.51
A25-643	8.90	3.00	3.00	0.50	1.90	7.00	40.00	6.00	80.10	0.50

MINA DE COBRE PANAMA PROJECT
Port Site Mass Earth Works

TABLE CHARGE RESUME

Number of boreholes	72	
Drilling meters	651.53	m
Meters Charged	515.43	m
Quantity of Shot Bags	440.00	
Total charge	3,080.00	kg
Blast Volume	5,863.77	m ³
Powder factor	0.53	kg/m ³
Maximum charge	50.00	kg
Average Hole Depth	9.05	m
Maximum hole depth	10.70	m
Minimum hole depth	6.90	m
Maximum subdrilling	-	m
Minimum subdrilling	-	m
Maximum stemming	2.00	m
Minimum stemming	1.80	m
Linear charge density "Explosive Type A"	5.70	kg/m
Linear charge density "Explosive Type B"	-	kg/m

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PORT SITE MASS EARTH WORKS

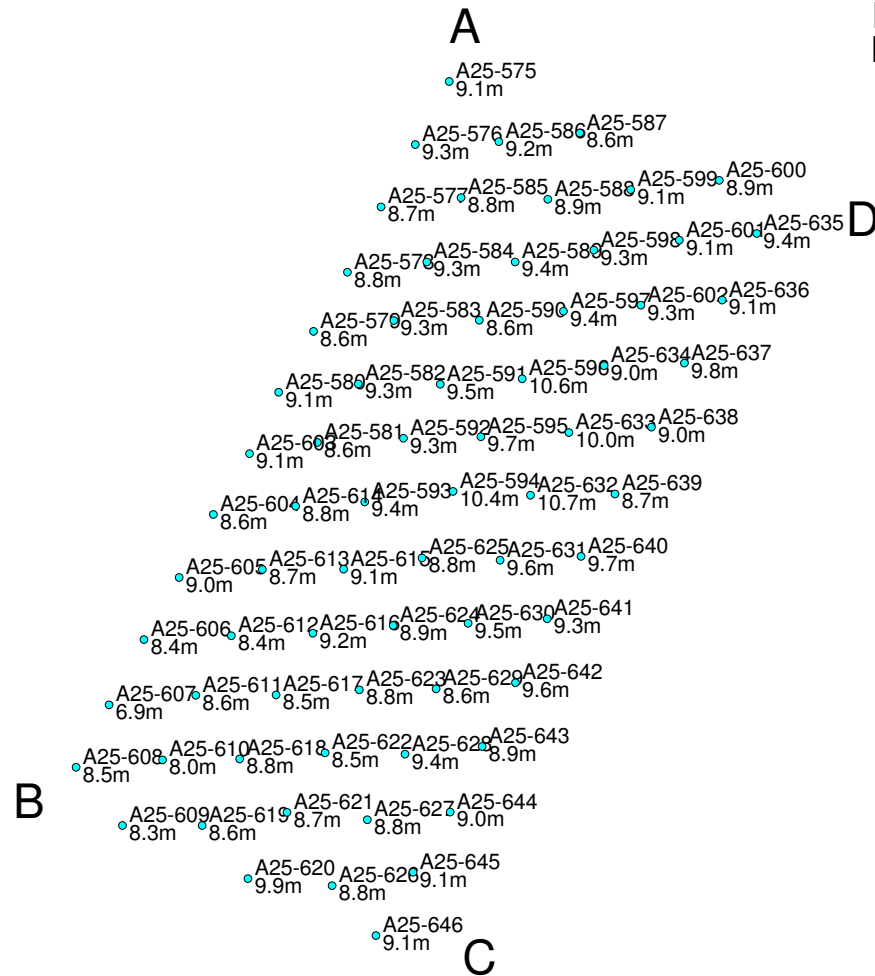
Hole ID and Hole Depth

Summary

Hole Quantity = 72

Drilled Meters = 651.50 m

Estimated Volume = 5,863.50 m³



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PORT SITE MASS EARTH WORKS

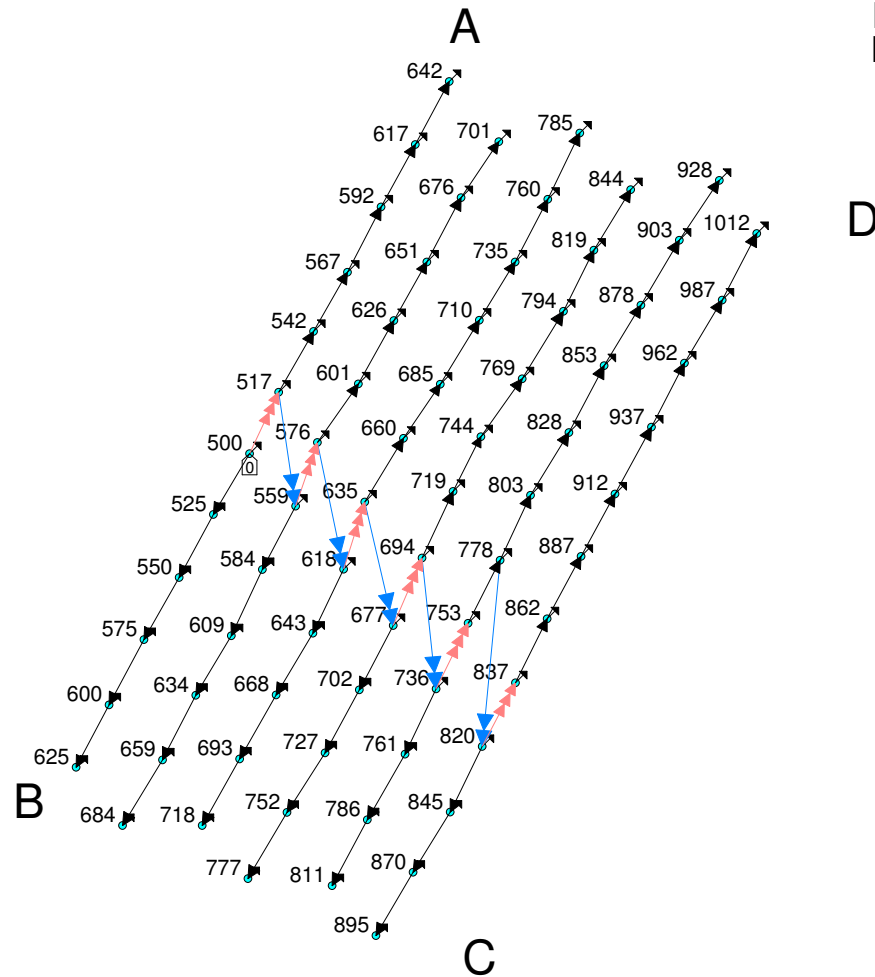
INHOLE NOMINAL TIMES

Summary

Hole Quantity = 72

Drilled Meters = 651.50 m

Estimated Volume = 5,863.50 m³



← EZ Det #25/500 (25)
 ← HTD #3 (42)
 ← HTD #1 (17)

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PORT SITE MASS EARTH WORKS

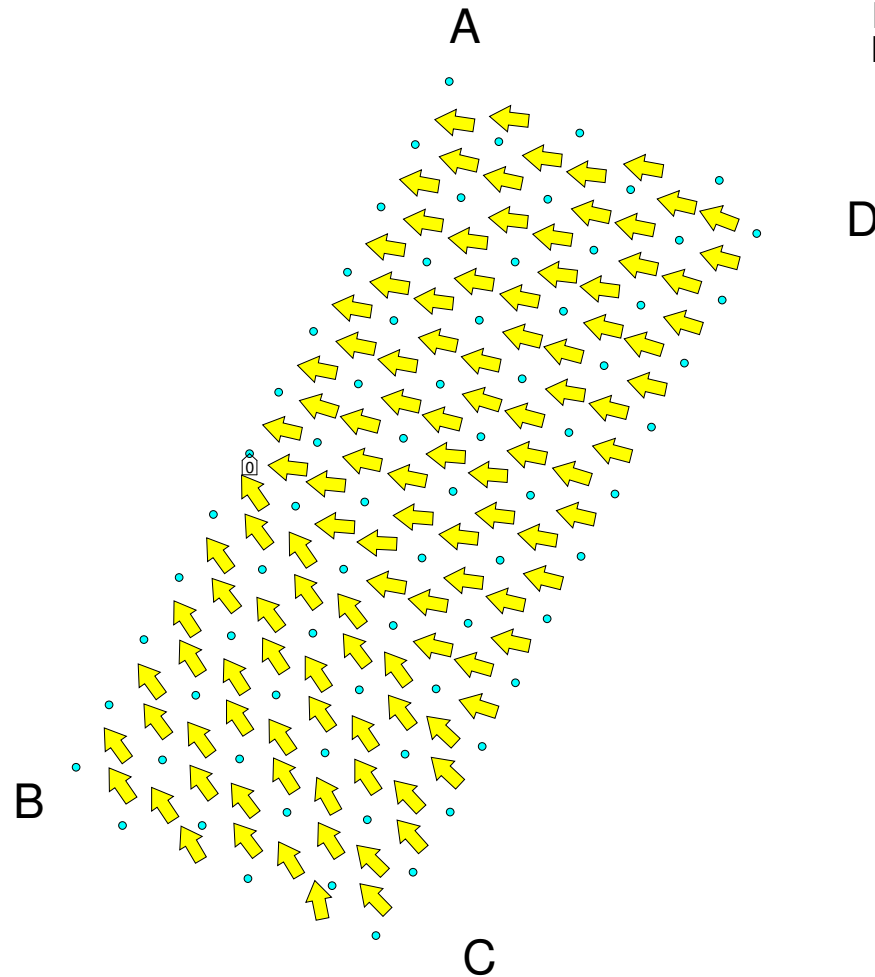
FIRST MOVEMENT

Summary

Hole Quantity = 72

Drilled Meters = 651.50 m

Estimated Volume = 5,863.50 m³



BLAST REPORT Nº 7

PORT SITE MASS EARTH WORKS

ANGLE OF INITIATION

Summary

Hole Quantity = 72

Drilled Meters = 651.50 m

Estimated Volume = 5,863.50 m³

